

IN THE CLAIMS:

1. (Previously Presented) A method of controlling a downhole hydraulic sequential control system, comprising

providing the control system at a downhole location, the control system comprising hydraulic fluid, a first pressure relief valve set to open at a first pressure, and a second pressure relief valve set to open at a second pressure, wherein the second pressure is greater than the first pressure; and

transmitting pressure of downhole working fluid to the hydraulic fluid of the control system, wherein the pressure from the working fluid is transmitted to the hydraulic fluid by a booster.

2. (Original) A method as claimed in claim 1, wherein the pressure relief valves provide flow directly or indirectly to corresponding actuators.

3. (Original) A method as claimed in claim 1, wherein the pressure of the hydraulic fluid is controlled through regulating the flow rate of the working fluid, by draining the working fluid through a throttle valve with flow dependent flow resistance.

4.-6. (Canceled)

7. (Previously Presented) A downhole hydraulic sequential control system comprising

a first pressure relief valve set to open at a first pressure;

a second pressure relief valve set to open at a second pressure, wherein the second pressure is greater than the first pressure; and

a dividing piston arranged to be influenced by pressure of downhole working fluid and transmit pressure through hydraulic fluid to the pressure relief valves, wherein the dividing piston forms part of a booster.

8. (Canceled)

9. (Currently Amended) A device system as claimed in claim 7, further comprising a throttle valve communicatingly connected to a working fluid chamber of the dividing piston.

10. (Canceled)

11. (Canceled)

12. (Previously Presented) A method of controlling a downhole hydraulic sequential control system in which a plurality of pressure relief valves are arranged to open sequentially by introduction of a hydraulic fluid, the method comprising transmitting pressure of downhole working fluid to the hydraulic fluid of the control system by a dividing piston, wherein an area of the dividing piston acted on by the working fluid is larger than an area of the piston acting on the hydraulic fluid so that the pressure of the hydraulic fluid is higher than the pressure of the working fluid.

13. (Previously Presented) A method of controlling a downhole hydraulic sequential control system, comprising

providing the control system at a downhole location, the control system comprising hydraulic fluid, a first pressure relief valve set to open at a first pressure, and a second pressure relief valve set to open at a second pressure, wherein the second pressure is greater than the first pressure; and

transmitting pressure of downhole working fluid to the hydraulic fluid of the control system, wherein pressure of the hydraulic fluid is controlled through regulating a flow rate of the working fluid, by draining the working fluid through a throttle valve with flow dependent flow resistance.

14. (Previously Presented) A method of controlling a downhole hydraulic sequential control system, comprising

providing the control system at a downhole location, the control system comprising hydraulic fluid, a first pressure relief valve set to open at a first pressure, and a second pressure relief valve set to open at a second pressure, wherein the second pressure is greater than the first pressure; and

transmitting pressure of downhole working fluid to the hydraulic fluid of the control system,

wherein:

the pressure from the working fluid is transmitted to the hydraulic fluid by a dividing piston, and

an area of the dividing piston acted on by the working fluid is larger than an area of the piston acting on the hydraulic fluid so that the pressure of the hydraulic fluid is higher than the pressure of the working fluid.

15. (Previously Presented) A downhole hydraulic sequential control system comprising

a first pressure relief valve set to open at a first pressure;

a second pressure relief valve set to open at a second pressure, wherein the second pressure is greater than the first pressure; and

a dividing piston arranged to be influenced by pressure of downhole working fluid and transmit pressure through hydraulic fluid to the pressure relief valves, wherein an area of the dividing piston acted on by the working fluid is greater than an area of the dividing piston acting on the hydraulic fluid.

16. (Previously Presented) A method as claimed in claim 1, further comprising supplying the working fluid to the control system from the surface through coiled tubing.

17. (Previously Presented) A method as claimed in claim 1, wherein the pressure is created by throttling flow of the working fluid.

18. (Currently Amended) A device system as claimed in claim 9, wherein the throttle valve has a flow dependent resistance.

19. (Previously Presented) A method of controlling a downhole hydraulic sequential control system, comprising:

providing the control system at a downhole location, the control system comprising:

hydraulic fluid,

a first pressure relief valve set to open at a first pressure,

a second pressure relief valve set to open at a second pressure, wherein the second pressure is greater than the first pressure, and

a piston disposed in a cylinder and isolating a working fluid from the hydraulic fluid, the piston having a first area in fluid communication with the working fluid and a second area in fluid communication with the hydraulic fluid, and

the cylinder having a chamber, an inlet port, and an outlet port, and

injecting the working fluid into the chamber via the inlet port, wherein the working fluid is throttled as the working fluid exits the chamber via the outlet port, thereby creating pressure in the chamber, exerting the pressure on the first area of the piston, and causing the second area of the piston to act on the hydraulic fluid.

20. (Currently Amended) A method as claimed in claim [[1]] 19, wherein the working fluid is injected into the chamber via coiled tubing from the surface.